



Battery Innovation Hub

B.I.G. Battery Innovation Hub Terms of Reference

14 November 2019

PURPOSE

This Terms of Reference (ToR) document describes the terms of reference for the Battery Innovation Hub, a sub-working group of the Battery Industry Group.

BACKGROUND

Greater demand for high energy capacity, storage, and output from batteries has led to significant developments in battery technology. A diverse range of industries are utilising large, predominantly lithium-ion, batteries for uses such as electricity storage systems or electric vehicles (EVs). Volumes of large batteries entering the New Zealand market are increasing and small stockpiles of used and end-of-life batteries exist with volumes predicted to increase sharply in approx. 2024. These batteries can be part of a circular economy, by entering cycles of secondary use e.g. in stationary energy storage or end-of-life value extraction and disposal.

There is currently no end-of-life processing in New Zealand for batteries, however, some entrepreneurs are exploring second-life options for EV batteries. There is an opportunity for members of the Battery Industry Group (B.I.G.) to trial options for end-of-life management in the region, which will allow for barriers around export of used batteries to be investigated and recommendations made. This trial will initially use currently stockpiled batteries with the aim of creating a future battery exchange.

Second-life innovation can potentially provide a reuse solution to B.I.G. members and the wider industry and support an emerging circular economy.

KEY DELIVERABLES

The Battery Innovation Hub (BIH) will inform the B.I.G. 'circular' product stewardship scheme (i.e. a scheme which supports a circular economy) through enabling trials of second-life batteries and connecting suppliers of used batteries with entrepreneurs re-purposing for second-life uses. Non-commercially sensitive findings will be shared with the group to inform the future stewardship scheme.

The BIH will also trial end-of-life disposal options, ideally in New Zealand or with existing facilities in Australia. The BIH will enable the trial of innovative technologies in relation to tracking a battery through its lifecycle to end-of-life disposal post value-extraction.

METHODOLOGY

The Battery Innovation Hub will:

- Include all large batteries in scope, including lead-acid as these batteries are proposed by the Ministry for Environment to be included in regulated product stewardship
- Create a process for second-life entrepreneurs to request batteries for second-life trials with safety as a priority
- Provide technical requirements that large batteries must meet to be trialled on the Auckland network
- Where possible provide opportunities for second-life entrepreneurs to trial second-life batteries which meet the technical requirements
- Provide a supply of used batteries to second-life entrepreneurs and collate feedback
- Trial end-of-life options

- Trial or enable new technologies to be trialled in New Zealand with B.I.G members
- Liaise and align with the Safety & Logistics Group and the B.I.G. as required, including quarterly updates to the B.I.G. core delivery team
- Provide recommendations to B.I.G. on the design of a product stewardship scheme based on evidence and learnings

MEMBERSHIP

The BIH membership will include:

- Chair, Vector – Jo Phillips
- Sustainability / circular economy advisor – Juhi Shareef
- Second life entrepreneurs
- Safety & Logistics Group members (e.g. logistics / shipping companies)
- New Zealand Ministry of Foreign Affairs and Trade (MFAT) in an advisory role
- End-of-life / waste management companies
- Battery manufacturers and retailers
- EV OEMs and used-vehicle industry
- Other parties may request or be nominated to join and membership will be decided at bi-monthly meetings.

See B.I.G. Sharepoint site for current list of members.

GOVERNANCE

All members will abide by the values, expectations and requirements set by the B.I.G. Terms of Reference as applicable to the BIH.

REPORTING REQUIREMENTS

Updates of, and recommendations from, the BIH will be provided to B.I.G. at quarterly intervals. Findings will be communicated to B.I.G. for distribution through its members to influence NZ regulations, second-life / circular economy opportunities and safe industry practices.

WORK PLAN, INCLUDING ACTIVITY SCHEDULE

The BIH will hold a kick-off meeting to ensure alignment on the objectives of the working-group. Following that, meetings (tele- or video conference or face-to-face) will be held as and when needed to discuss and work through issues that have been identified or to share results.

FUNDING

The BIH does not have an allocated budget and all costs of operation will be met by members of BIH e.g. those who provide batteries for end-of-life management, or through acquired sponsorship.

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